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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KUMAR, PANKAJ

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 02/05/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/439,608

Applicant(s)

LENNEN, GARY

Examiner

Pankaj Kumar

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-16 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Response to Amendment

2. The amendment to claim 11 is defective. The clean version of claim 11 is different than the marked up version of claim 11. The responses (current and any prior responses based on the last amendment to claim 11) have been based on the marked up version of the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

4. A person shall be entitled to a patent unless –

5. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Litton USPN 5,576,715

7. As per claim 1, Litton teaches an apparatus for tracking remotely generated signals comprising: a first tracker for tracking a first component (Litton fig. 7: early/late into 242) of a first remotely generated signal (Litton fig. 7: input into 222 is remotely generated and it goes into 224 via other components) and including a W-code signal generator (Litton fig. 7: 242a) responsive to a second component (Litton fig. 7: punctual into 242a) of the first signal (Litton fig. 7: input into 222 is remotely generated and it goes into 224 via other components) for generating a first W-code signal (Litton fig. 7: output of 242a) from a second component (Litton

Art Unit: 2631

fig. 7: punctual into 242a) of the first signal (Litton fig. 7: input into 222 goes into 224 via other components); a second tracker for tracking a first component (Litton fig. 7: punctual into 234) of a second remotely generated signal (Litton fig. 7: input into 232 is remotely generated and it goes into 238 via other components) according to the first W-code signal (Litton fig. 7: output of time alignment latch 249 according to the first W-code signal); wherein the second component (Litton fig. 7: punctual into 242a) of the first signal (Litton fig. 7: input into 222 is remotely generated and it goes into 224 via other components) has the same pattern (Litton fig. 7: punctual) as the first component (Litton fig. 7: punctual into 234) of the second signal (Litton fig. 7: input into 232 is remotely generated and it goes into 238 via other components).

8. As per claim 2, an apparatus according to claim 1, wherein the pattern (Litton fig. 7: punctual pattern is generated after filtering by combining the P-Code and received signal) comprises: a known pattern (Litton fig. 7: P-Code has a known pattern) combined with an unknown pattern (Litton fig. 7: received signal has an unknown pattern).

9. As per claim 3, an apparatus according to claim 2, wherein timing information about the unknown pattern is known (Litton fig. 7: timing of the received signal is known since the system evaluates the energy of the received signal in order to find out the time when it was received).

Allowable Subject Matter

10. Claims 7-10 and 11-16 are allowed.

11. Claims 4, 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2631

13. The art of record does not suggest the respective claim combinations together and nor would the respective claim combinations be obvious with the bold underlined portions:

14. Claim 4 is objected to since Litton does not teach: **the first tracker generates a timing signal in accordance with the timing information for improving the accuracy of the first W-code signal.**

15. Claim 5 is objected to since Litton does not teach: **combines the local component signal with a version of the first signal to generate the first W-code signal.**

16. Claim 6 is objected to since Litton does not teach: **combines the second local component signal with at least one version of the second signal to generate at least one second W-code signal.**

17. Claim 7 is allowed since Litton does not teach: **combines the second local component signal with at least one version of the second signal to generate at least one second estimate signal; and the second tracker generates a timing signal in accordance with the timing information for improving the accuracy of the at least one second estimate signal** (not in Litton)

18. Claim 8 is allowed since Litton does not teach: **combines the local component signal with a version of the first signal to generate the first W-code signal; the second tracker combines the first estimate signal with the at least one second estimate signal to provide a tracking signal for tracking the first component of the second signal.**

19. Claim 9 is allowable since claim 8 is allowable.

20. Claim 10 is allowable since claim 9 is allowable.

Art Unit: 2631

21. Claim 11 is allowed to since based on the marked up version of claim 11, Litton does not teach: the first component of the GPS L1 signal is a C/A-code component; the second

component of the GPS L1 signal is a Y-code component; the first component of the GPS L2 signal is a Y-code component; the unknown pattern is a GPS W-code; (not in Litton)

22. Claim 12 is allowed since Litton does not teach: applying the first estimate signal for locking to a first component of the second signal

23. Here is an analysis of claim 12: As per claim 12, a method for tracking signals comprising the steps of: locking (Litton fig. 7: filter 224 locks on to the bandpass frequency to retrieve the first and second signal components) to a first component (Litton fig. 7: punctual into 242a) of a first signal (Litton fig. 7: input into 222 goes into 224 via other components); aligning (Litton fig. 7: 243) a local version of a second component (Litton fig. 7: early/late into 242) of the first signal (Litton fig. 7: input into 222 goes into 224 via other components) with the first component (Litton fig. 7: punctual into 242a) of the first signal (Litton fig. 7: input into 222 goes into 224 via other components); aligning a local version of a first component (Litton fig. 7: early/late in 234a) of a second signal (Litton fig. 7: input into 232 goes into 238 via other components); aligning (Litton fig. 7: 249) with the first component (Litton fig. 7: punctual into 242a) of the first signal (Litton fig. 7: input into 222 goes into 224 via other components); generating a first estimate signal from a version of the first signal and the local version of the second component (Litton fig. 7: output of 250, 250a); applying the first estimate signal for locking to a first component of the second signal (not in Litton); and wherein the second component of the first signal and the first component of the second signal comprise the same pattern (Litton fig. 7: early/late).

Art Unit: 2631

24. Claim 13 is allowed since Counselman does not teach: aligning
25. Claim 14 is allowable since claim 13 is allowable.
26. Claims 15-16 are allowed since Counselman does not teach: used with the P-code to generate the Y-code component (not in Counselman)

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on Mon, Tues, Wed and Thurs after 8AM to after 6:30PM.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (703) 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PK

TEMESGHEN GHEBREINSAE
PRIMARY EXAMINER

